

WHAT IS CLAIMED IS:

1 1. A polishing medium for chemical-mechanical
2 polishing, comprising an oxidizing agent, a
3 metal-oxide-dissolving agent, a
4 protective-film-forming agent, a water-soluble polymer,
5 and water.

1 2. The polishing medium for chemical-mechanical
2 polishing according to claim 1, wherein said
3 water-soluble polymer has a weight-average molecular
4 weight of 500 or more.

1 3. The polishing medium for chemical-mechanical
2 polishing according to claim 2, wherein said
3 water-soluble polymer comprises two or more polymers each
4 having a weight-average molecular weight of 500 or more,
5 wherein but a weight-average molecular weight of said
6 polymers are different from each other.

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1 4. The polishing medium for chemical-mechanical
2 polishing according to any one of claims 1 to 3, which
3 has a coefficient of kinetic friction of 0.25 or more.

1 5. The polishing medium for chemical-mechanical
2 polishing according to any one of claims 1 to 4, which
3 has a Ubbelode's viscosity of 0.95 cP or more and 1.5 cP
4 or less.

1 6. The polishing medium for chemical-mechanical
2 polishing according to any one of claims 1 to 5, which
3 has a point-of-inflection pressure of 50 gf/cm².

1 7. The polishing medium for chemical-mechanical
2 polishing according to any one of claims 1 to 6, wherein
3 said oxidizing agent is at least one of hydrogen peroxide,
4 nitric acid, potassium periodate, hypochlorous acid and
5 ozone water.

1 8. The polishing medium for chemical-mechanical
2 polishing according to any one of claims 1 to 7, wherein
3 said metal-oxide-dissolving agent is at least one of an
4 organic acid, an organic-acid ester, an organic-acid
5 ammonium salt and sulfuric acid.

1 9. The polishing medium for chemical-mechanical
2 polishing according to any one of claims 1 to 8, wherein
3 said protective-film-forming agent is a

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4 nitrogen-containing compound.

10. The polishing medium for chemical-mechanical
polishing according to any one of claims 1 to 8, wherein
said protective-film-forming agent is at least one of a
mercaptan, glucose and cellulose.

11. A polishing method comprising polishing a
polishing object film of a metal or metal oxide with the
polishing medium for chemical-mechanical polishing
according to any one of claims 1 to 10.

12. The polishing method according to claim 11,
wherein said polishing object film comprises at least one
of copper, a copper alloy, a copper oxide and a copper
alloy oxide.